Extending the OPAC: Integrating WorldCat, Maps, and More into Aleph

IGeLU
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Introduction

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The State of Libraries and the Internet

• Libraries are no Longer the Only Place for Search and Books
  ➢ Google and Yahoo changed the way users think about search expertise
  ➢ Large digitization projects are offering text online

• But … Libraries Offer Content and Services
  ➢ Books
    • Get Books for You - ILL
    • Deliver Books to You – Document Delivery
    • Get a readable copy
  ➢ Journals
    • Pay for access
  ➢ Reserves
  ➢ Spaces to Meet, Read, Discuss
  ➢ Information literacy
  ➢ And so much more …
Where Libraries Can Focus Their Energy

• Bringing our Tools in Line with User Expectations created by the Internet

• Stop Making Them Go to a Specific Place - Integrate Services Where the User Is
  - Facebook
  - Course management systems
  - Etc.

• Making More Logical Paths to Getting What Patrons Need

• Users Want to Be Able to Do It Themselves, but they also have a low tolerance for something that is difficult to do
The Opportunities

• Libraries have the opportunity to be technology leaders and deliver what our patrons want
  ➢ We have amazing structured data
  ➢ We have contact with our specific communities of users
  ➢ But … we need programmers and technology specialists, who are also library aware

• ExLibris Open Platform
  ➢ Commitment to open parts of systems
  ➢ Platform for sharing code

• Local Customization will require
  ➢ High Level Programmers to lead development
  ➢ Web Developers with basic understanding of scripting to implement
Technology Skills

• Technology for Development in Libraries
  ➢ XHTML
  ➢ CSS (Cascading Style Sheets)
  ➢ Javascript
    • AJAX (Asyncronous Javascript and XML)
    • JSON (JavaScript Object Notation)
  ➢ XML (eXtensible Mark-up Language)
    • XSLT (XML Style Language Transformation)
  ➢ Open Standards
    • OpenURL
  ➢ Database Skills: MySQL, Posgres, Oracle
  ➢ SQL
Technology Skills

- **WebServices**
  - HTTP
  - SRU (Search and Retrieval URL)
  - XML

- **Scripting Language**
  - PERL
  - PHP
  - ASP, .net, C#
  - Ruby
  - Python

- **Programming Language**
  - Java
  - C++
Enhancing the OPAC

- Reusing Catalog Data to:
  1. enhance findability
  2. reduce dead ends
  3. reduce user keying and clicking
  4. reusing existing (robust) data
  5. better fulfill user expectations set by the Internet (bring the OPAC closer to next gen systems)
Process for Determining Enhancements

- Requests from:
  - committees
  - individuals
  - administration
Process (cntd)

• **Determine Feasibility**
  ➢ What systems can accomplish the goal?
  ➢ What are the dependencies?

• **Cost/Benefit Balance**
  ➢ How much person time is involved vs how will this benefit
    • internal operations
    • users
Process (cntd)

• Brainstorm
Experimentation and Change

• Increasing Experimentation with Services
  ➢ developing hooks to commercial internet/subscription services
  ➢ let users vote with their fingers

• Services go into Beta for a period (6 months, semester, etc)
  ➢ those that get a lot of use are rolled into production
  ➢ those that don’t are discarded, moved to less prevalent part of menu, or get further evaluation

• Implementation/Change Management
  ➢ implementation of new services midstream
  ➢ changes in small to medium services
    • not always on semester schedule
    • users understand change nature of Internet
Customization

• Aleph (Templates)
  ➢ Allows for
    • Flexibility, can insert scripts
    • Powerful
      • can access the data
      • create multiple versions of the same file
    • Customized look and feel
    • Relatively low programming threshold for basic functionality (HTML, CSS, for more advanced features Javascript)

➢ Drawbacks
  • You can only work with the data you get on the screen
  • Unstructured, may have to shoehorn
  • Undocumented
  • Can’t move from file to file (even on the same screen)
Open-ness

- SFX (Parsers/Displayers), MetaLib (Search Programs)

  - Allows for
    - Customization of system
    - Extensibility

  - Drawbacks
    - May not carry from version to version
    - Requires medium level of programming knowledge (HTML, CSS, PERL, Javascript)
APIs

• Aleph, MetaLib (X-Server), SFX (API)
  ➢ Allows for
    • Deep customization
    • Data repurposing
    • Greater Flexibility and Extensibility
    • Structured data (computer can understand)
  ➢ Drawbacks
    • Requires high level of programming knowledge (HTML, CSS, Scripting Language [PERL, PHP, .net, Ruby], Javascript, XML, Web Services, HTTP)
    • Multiple calls to different web services may introduce network latency
    • Most often pull, need more push APIs
Aleph as a Discovery System

Direct Export

Search WorldCat

FindIt

ALEPH OPAC
Added Services

• FindIt
• EndNote/Refworks Export
• Search WorldCat
Mash-ups

• Mash-up
  ➢ bringing different elements from disparate information systems to create a new work
FindIt

- An SFX like menu that offers the user special services, maps, and added information about the item of interest
- Originally conceived to pre-fill document delivery forms (faculty only) in ILLiad
- Maps became focus to guarantee no dead end for most users
- Extended Services became add-ons that we thought might be useful
FindIt Technology

- Getting Data
  - WebServices (Aleph XServer, ISBN.com, Maps)
    - XML
    - SRU
    - HTTP
  - Javascript (Google Book)
    - JSON
FindIt Technology (cntd)

- Display
  - XHTML
  - CSS
  - Javascript
How Users Access FindIt

The Lost German Slave Girl: The Extraordinary True Story of the Slave Sally Miller and Her Fight for Freedom in Old New Orleans

Title: The Lost German Slave Girl: The Extraordinary True Story of the Slave Sally Miller and Her Fight for Freedom in Old New Orleans

Author: John Bailey

Publication Date: December 2004

Publisher: Grove/Atlantic Incorporated

Country of Publication: United States

Market: United States

ISBN: 0-7603-9212-9


P-H: W/N (15/10/11)

Item Status: Out of Print (Available for Order)

Binding Format: Trade Cloth

Pages: 320

Price: $21.00 (US hardcover) / $14.00 (paperback)

Also Available Through: Library

Current Language: English

Audience: General Adult

Awards: School Library Journal Best Books of the Year (JUN/1F/B) 2005

Reviewer Subjects: Louisiana, Biography

General Subjects (BISAC): SLAUPPERAAMJ / S乱20AAMJ / S乱20AAMJ / S乱20AAMJ / S乱20AAMJ

LC Class #: F270.W55M59 2004

 Dewey #: 973.7/718/092.5

Physical Dimensions (W x H): 6.38 x 9.38 x 1.34 in.

Synopsis/Annotation: It is a spring morning in New Orleans, 1840, in the Spanish Quarter, on a street lined story of...
FindIt Future Enhancements

• Integrate with SFX
  ➢ especially for determining the electronic counterpart for print items

• Pull availability information from Aleph (probably via AJAX)

• Use xISBN with Google Book Viewability
  ➢ expand viewability to other editions
FindIt Aleph Integration

- Full Record
- Holdings Record
- Results List
Author: Bailey, John. 1944 Dec. 15-
Title: The lost German slave girl: the extraordinary true story of Sally Miller and her fight for freedom in old New Orleans / John Bailey.
xiii, 263 p. ; 24 cm.

ND Has: Locations
Hesburgh Library General Collection
F 379 .N563 M663 2006

Abstract: Louisiana, 1843: a German immigrant thinks she recognizes a young slave girl as the long-lost daughter of her German friend, but the girl has no memory of such a past, and her
[002099718] Bailey, John, 1944 Dec. 15:
The lost German slave girl:
xiii, 256 p. ; 24 cm.

**Location:** Location: Hesburgh Library General Collection F 379 .N553 M563 2006
<table>
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<td><em>new facts, new glimpses, revisions</em></td>
<td>Hesburgh Library General Collection PS 3505 .A87 Z93824 2008</td>
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</tbody>
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<a href="http://www.library.nd.edu/eresources/findit/findit.cgi?doc_num=$1000&aleph_session=&session" target="_blank">Configure $1000 in xxx01/tab/www_tab_short.eng</a>
EndNote and Refworks

- 2 Bibliographic Utilities supported on campus.
- What was already in place?
  - Z39.50 protocol allowed remote search of the catalog from within EndNote or RefWorks (limited search capability)
  - Aleph introduced an EndNote download format (RIS). User could download a text-file and import records manually.
Direct Export

• We want the user to be able to:
  ➢ Search and select records *in Aleph*
  ➢ Select RefWorks or EndNote
  ➢ Export records directly to the
    • the EndNote library on the user’s workstation
    • the user’s RefWorks account

*without downloading an intermediate text file*
EndNote and Refworks Technology

• Getting Data
  - Javascript
  - Aleph Template Variables
  - Templates – HTML and Forms
    • web pages and notices [export formatting] live different places (f-tree and form_lang)

• Pushing Data to Bibliographic Management Programs
  - Refworks
    • PERL, but could use Javascript
    • Browser redirection (url has location of file on our server)
  - EndNote
    • PERL
    • HTTP Header Manipulation – MIME type
    • Data Dump Direct to Browser
EndNote/Refworks Aleph Integration

- User selects record(s) from
  - Results list
  - Full Record
  - E-Shelf

- Added a hidden form to short-mail, full-mail & myshelf-mail
  - Selected necessary options for export (unicode & RIS)
  - Linked form to an “Export” tab

- Added a form to the save-mail, which is displayed when the file extension is .end

- Form sends server information and temp file name to a cgi script: export_citations
Refworks

• Build RefWorks URL with
  ➢ Name and location of temp file
  ➢ filter selection (RIS)
  ➢ encoding (unicode)

• Browser is redirected to RefWorks URL

• RefWorks server
  ➢ retrieves temp file from Aleph server
  ➢ imports records into user’s account
  ➢ opens user’s account in browser
How Refworks Export Works

Aleph

CGI

File Request

RIS Files (Bibs)

RefWorks URL

Export Request

RefWorks Account

Patron

RefWorks
EndNote

- Opens temp file on Aleph server
- “Prints” file to user’s browser, with MIME type
  - application/x-endnote-refer
- Browser opens file with EndNote
- User selects an EndNote library on workstation
- EndNote imports records
How EndNote Direct Export Works

Aleph

application/x-endnote-refer

RIS File

EndNote Library

Export Request
WorldCat Search

• Automatically redirect the user’s search from Aleph to WorldCat (no re-keying)

• Two Main Goals:
  ➢ Eliminate OPAC dead-ends when needed items are not in the collection
  ➢ Increase use of WorldCat direct ILL request
What we Already Had in Place

• WorldCat (FirstSearch version) available on library homepage (but not from the OPAC)

• WorldCat direct request (via SFX)
  - User could request WorldCat items without keying them into an ILL form
  - Item request forwarded to OCLC without staff intervention in ILL office
Top 3 reasons to use WorldCat.org (instead of FirstSearch)

3. WorldCat.org has a more user friendly interface (next gen), including faceted browsing
2. WorldCat.org is available to anyone who searches our OPAC, regardless of affiliation
1. FirstSearch does not support URL embedded searches
WorldCat Search Technology

• Getting Data
  ➢ Javascript
  ➢ Aleph Template Variables

• Sending Data to WorldCat
  ➢ PERL
  ➢ HTTP Redirection
Aleph vs. WorldCat Search Syntax

**Aleph**

- **WRD** = (key words)
- **WAU** = (author)
- **WTI** = (title)
- **WSU** = (subject)
- **WLN** = (language)

**Browse**

scan code=IND & scan start = text

**Boolean**

IND = (terms) OPR IND = (terms)
IND = (terms OPR terms)

**WorldCat**

- q= key words
- au: author
- ti: title
- su: subject
- > limit (language)

*No Browse*

*No Boolean Operators*

**Affiliation**

qt=affiliation&ai=University_ndlibraries
Aleph vs. WorldCat Examples

**Aleph**

WRD = (oracle)
WAU = (twain) AND WTI = (sawyer)
WAU = (twain) AND WLN = (fre)
WRD = wom\!n executives

scan\_code = WTI and
scan\_start = hunting of the sna

WAU = (heinlein OR asimov)

**WorldCat**

q=oracle
q=au:twain ti:sawyer
q=au:twain > fre
q=wom\!n executives

q=ti:hunting of the sna?

Cannot render
WorldCat Search Aleph Integration

- Keyword Results
- Browse List
- Browse Results
- KW No Records
- Advance Keyword

- short-2-head (script)
- scan-acc-head
- short-1-head
- find-b-list-head
- find-b-permute-head
- find-a

A separate script is needed for each file
WorldCat Search Aleph Integration (cntd)

• Wrote JavaScript on Search Results page (actually, several search results pages) to capture the users Aleph query.
• Did some minimal processing of the users query on the client side to standardize the search.
• Sent the query off to a CGI script on the Aleph server
http://worldcat.org/search?qt=affiliation&ai=University_nldibraries&q=ti%3Asawyer+au%3Atwain&fq=ln%3AFRE+%3E+%3E+%3E+%3E+&qt=advanced
FindIt Usage Trends

Total FindIt Menus Requested

Requests

0 500 1,000 1,500 2,000 2,500 3,000

November December January February March April May June July

Added link from brief results.
FindIt Usage Trends

Service Click Through Trends

- Maps
- Document Delivery
- Direct Link
- Google Book
- Ulrichs
- Books in Print
- WorldCat More Libraries
- WorldCat Author
- WorldCat Identities
- Amazon Review

Requests

Month

November December January February March April May June July
WorldCat Search Usage

Clicks of WorldCat Button

Month

Nov Dec Jan Feb Mar Apr May Jun
Thank You